







U.S. Department  
of Transportation  
Federal Aviation  
Administration

# Advisory Circular

**Subject:** Fabrication of Aircraft Parts by  
Maintenance Personnel

**Date:** 06/07/11

**AC No:** 43-18

**Initiated by:** AFS-300

**Change:** 2

**1. PURPOSE.** This advisory circular (AC) ensures that parts fabricated during maintenance and alteration have an equivalent level of safety as those parts produced under the original design holder's production certificate. This AC provides one means of complying with the requirements of Title 14 of the Code of Federal Regulations (14 CFR) parts 21 and 43 for the design and fabrication of parts by persons performing maintenance and alterations using methods, techniques, and practices acceptable to the Administrator. As required by regulations, such parts fabrication and their implementation must be accomplished "in such a manner...that the condition of the aircraft, airframe, aircraft engine, propeller, or appliance worked on will be at least equal to its original or properly altered condition." This AC is not mandatory and does not constitute a regulation. It outlines one method (but not the only method) of compliance with the rules. A person may elect to follow an alternative method, provided the Federal Aviation Administration (FAA) finds the alternative method to be an acceptable means of complying with the applicable requirements of 14 CFR.

## **2. RELATED 14 CFR PARTS.**

- a. Part 1, Definitions and Abbreviations.
  - b. Part 21, Certification Procedures for Products and Parts.
  - c. Part 23, Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes.
  - d. Part 25, Airworthiness Standards: Transport Category Airplanes.
  - e. Part 27, Airworthiness Standards: Normal Category Rotorcraft.
  - f. Part 29, Airworthiness Standards: Transport Category Rotorcraft.
  - g. Part 31, Airworthiness Standards: Manned Free Balloons.
  - h. Part 33, Airworthiness Standards: Aircraft Engines.
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**k. Part.** For the purposes of this AC, is an article that could be produced under the provisions of 14 CFR part 21 and is eligible for installation on a certificated aircraft without further manufacturing processes.

**NOTE:** The definition of a part for the purposes of this AC would *not* include raw materials or repair segments being utilized for the repair or alteration of a part. (i.e., sheet metal stock, sealants, lubricants, raw forgings, or castings, billet material, etc.)

**l. Parts CATs.** Parts are classified into one of three CATs, depending on their potential effect on safety. They are listed on a Category Parts List (CPL). Criteria exists for establishing and identifying part CATs, as discussed in paragraphs 6d(1) and 7b(1) through (3) of this AC. The criteria details the level of FAA involvement necessary to approve the fabrication of such parts. It also specifies the level of technical data, quality control system, procedures development, and processes necessary to substantiate fabrication of such parts within each CAT.

**m. Project ACO.** The ACO is responsible for a project, which results in approving data submitted by the fabricator to FAA for fabricating the part. The project ACO may be required to coordinate with the certificate management ACO, depending upon the criticality classification and complexity of the part to be fabricated.

**n. Production.** An act in which a part is manufactured under part 21 to an approved design, or to an established industry standard or specification recognized by the United States.

**o. Subcontractor.** A person providing parts, materials, or related services (welding, plating, machining, etc.) to the certificate holder responsible for fabrication of the part. The subcontractor must be subject to control and surveillance by that certificate holder who is ultimately responsible for the airworthiness of the part and its fabrication processes.

#### **4. RELATED READING MATERIAL (current editions).**

**a. FAA Orders.** You may obtain the current editions of these orders from the FAA Web site at <http://www.faa.gov/>.

- (1) Order 8110.42, Parts Manufacturer Approval Procedures.
- (2) Order 8120.2, Production Approval and Certificate Management Procedures.
- (3) Order 8120.11, Disposition of Scrap or Salvageable Aircraft Parts and Material.
- (4) Order 8130.2, Airworthiness Certification of Aircraft and Related Products.
- (5) Order 8900.1, Flight Standards Information Management System (FSIMS).

**b. Advisory Circulars.** You may obtain the current editions of these ACs from the FAA Web site at <http://www.airweb.faa.gov/rgl>.

- (1) AC 20-62, Eligibility, Quality, and Identification of Aeronautical Replacement Parts.
- (2) AC 21-29, Detecting and Reporting Suspected Unapproved Parts.
- (3) AC 43-9, Maintenance Records.















the design data. The list of data to be submitted to the ACO can be found in paragraph 6d(1)(a). The ACO will make the determination of necessary data for development and submittal based on each circumstance. In the case of a CAT 1 part, a DER may only “recommend approval” of the design data.

**(b) Fabrication Issues.** The certificate holder is responsible for ensuring all aspects of the FQCS are addressed and satisfied. The guidelines provided in paragraph 6d(2) should be used to develop the FQCS for compliance.

**(2) CAT 2 Part.** A fabricated part, the failure of which would not prevent continued safe flight and landing, but would reduce the capability of the aircraft or the ability of the flightcrew to cope with adverse operating conditions or subsequent failures.

**(a) Design Issues.** A CAT 2 part is a part intended to be consumed within a major repair or major alteration. Design data is required to be approved by the geographic ACO or appropriately authorized DER. The list of required data to be submitted to the ACO or the DER for approval can be found in paragraph 6d(1)(a).

**(b) Fabrication Issues.** The certificate holder is responsible for ensuring all aspects of the FQCS are addressed and satisfied. The guidelines provided in paragraph 6d(2) should be used to develop the FQCS for compliance.

**(3) CAT 3 Part.** A fabricated part, the failure of which would have no effect on the continued safe flight and landing of the aircraft.

**(a) Design Issues.** The fabrication of a CAT 3 part will generally require only acceptable data. Fabrication of this type of part will typically result in no involvement by AIR unless the AFS aviation safety inspector (ASI) requests assistance.

**(b) Fabrication Issues.** The certificate holder is responsible for ensuring all aspects of the FQCS are addressed and satisfied. The guidelines provided in Appendix 1 should be used to develop the FQCS for compliance with paragraph 6d(1)(b).

**NOTE: A summary of the certificate holder requirements for data based on the CAT of the part can be found in Appendix 1.**

**APPENDIX 1. SUMMARY OF REQUIREMENTS FOR CERTIFICATE HOLDERS  
SEEKING TO FABRICATE PARTS PURSUANT TO 14 CFR PART 21 AND PART 43**

<b>Fabrication Part Category</b>	<b>FQCS</b>	<b>Required Manual Procedures</b>	<b>ACO Design Data Approval</b>	<b>DER Approval Authority</b>	<b>FSDO Review of FQCS</b>
1	Yes	Yes	Yes Certificating ACO through the Geographical ACO	(Recommend Approval Only)	Yes
2	Yes	Yes	Yes Geographic ACO	Yes	Yes
3	Yes	Yes	Only Acceptable Data is Required for this Category ACO Intervention Only on Request by AFS	Not Required	Yes

Fabrication part categories used in this AC were derived from FAA Order 8120.2, Production Approval and Certificate Management Procedures.

**Category 1 Part:** A fabricated part, the failure of which could prevent continued safe flight and landing; resulting consequences could reduce safety margins, degrade performance, or cause loss of capability to conduct certain flight operations.

**Category 2 Part:** A fabricated part, the failure of which would not prevent continued safe flight and landing, but would reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures.

**Category 3 Part:** A fabricated part, the failure of which would have no effect on the continued safe flight and landing of the aircraft.

**APPENDIX 2. CATEGORY PARTS LIST**

The information contained in this appendix should be used as a guideline in determining a parts criticality. It is not all inclusive and specific questions concerning parts not addressed can be evaluated by contacting the certificate holding ACO.

The CPL has not been reviewed for update since July 1, 2004 and is not scheduled for any future update. Current FAA Safety Management System initiatives could render the CPL obsolete, at which time it will be eliminated. The CPL posted on the Internet is for information only and if used for other purposes than what is stated above it is solely at the user's risk.

Structural Assemblies	CFR Part	Structural Elements	CFR Part	Hydraulic/Pneumatic Components	CFR Part	Propulsion System Components	CFR Part	Systems and Equipment	CFR Part
<b>Fuselage (23-1), (25-1)</b>	23, 25	<b>Fuselage Structural Elements</b> Pressure Bulkheads (23-1), (25-1) Keel Beam (25-1) Longeron/Stringer (25-2) Floor Beam (25-2) Plates/Skins (25-2) Fuselage to Wing Attach Fittings (25-1) Stabilizer to Fuselage Attach Fittings (25-1) Gear to Fuselage attach Fittings (25-1) Door Hinge (on Fuselage) (25-1) Fuselage Panels (23-1), (25-1)	23, 25	Hydraulic Main Pump (23-1), (25-2), (27-1), (29-1) Main Accumulator (25-2) Main Reservoir (25-2) Auxiliary Pump (25-2)	23, 25, 27, 29	Software Thrust (EEC) (23-1), (25-1)	23, 25	<b>Electrical Power System</b> Alternator/Generator Drive System (23-2), (25-2) AC Generator-Alternator (23-2) (25-2) AC Inverter (23-2) (25-2) Phase Adapter (25-2) AC Regulator (25-2) <b>Fire Protection</b> Smoke Detection (25-2), (27-2), (29-2) Fire Detection (25-2), (27-2), (29-2) Overheat Detection (25-2), (27-2), (29-2) Extinguishing System (25-2), (27-2), (29-2) Fire Bottle-Fixed (25-2), (27-2), (29-2)	23, 25, 27, 29
<b>Flight Control Surfaces</b> Ailerons (23-1), (25-1) Rudder (23-1), (25-1) TE Flaps (23-1), (25-2) LE Devices (25-2) Elevator (23-1), (25-1) Spoilers (25-2)	23, 25	<b>Flight Control Structural Elements</b> Aileron Tabs (25-2) Jackscrew (23-1), (25-1) Bellcranks (23-1), (25-1) Flight Control Cables (23-1), (25-1)	23, 25	Flight Control Servo Actuators (25-2), (27-1), (29-1) Flap Actuator (25-2) Rudder Actuator (25-2) Stabilizer Actuator (25-2)	25, 27, 29	Thrust Reversers (23-1), (25-2) Auxiliary Power Units (23-1) FADEC (23-1)	23, 25	<b>Fuel System</b> Boost Pumps (23-1), (25-2), Transfer Valves (23-1), (25-2) Fuel S O V (23-1), (25-1) Digital Fuel Flow System (23-2) (25-2) Fuel Dump (25-2) Fuel Hose (Single engine applications ONLY) (23-2) (27-2), (29-2) Fuel Quantity Indicator (23-2) (25-2), (27-2), (29-2) Fuel Flow Indicating (27-2), (29-2) (23-2) Fuel Pressure Indicating (27-2), (29-2) (23-2) Fuel Pump (25-2), (27-1), (29-1) <b>Engine Lubrication System</b> Oil Cooler (Single engine applications ONLY) (23-2) (27-2), (29-2)	23, 25, 27, 29

**CATEGORY PARTS LIST**

<b>Structural Assemblies</b>	<b>CFR part</b>	<b>Structural Elements</b>	<b>CFR part</b>	<b>Hydraulic/Pneumatic Components</b>	<b>CFR part</b>	<b>Propulsion System Components</b>	<b>CFR part</b>	<b>Systems and Equipment</b>	<b>CFR part</b>
								<b>Engine Liquid Cooling System</b> Radiators, Coolant Pumps, Water Hoses and Head Gasket (Single engine applications ONLY) (23-2) (27-2), (29-2)  <b>Crew Oxygen System</b> (27-2), (29-2) <b>Indicating System</b> Warning, Caution, and Advisory Lights (27-2), (29-2), Main Rotor Indicating System (27-2), (29-2) Engine Power (27-2), (29-2) Engine Temperature (27-2), (29-2)	
<b>Empennage</b> Horizontal Stabilizers (23-1), (25-1) Elevators (23-1), (25-1) Vertical Stabilizers (23-1), (25-1) Rudder (23-1), (25-1)	23, 25	<b>Empennage Structural Elements Horizontal Stabilizer</b> Spars/Ribs (23-2) (25-2) Plates/Skins (23-2) (25-2) Tab Structure (23-2) (25-2) Attach Fitting (23-2) (25-2) <b>Empennage Structural Elements Elevator</b> Spars/Ribs (23-2) (25-2) Plates/Skins (23-2) (25-2) Tab Structure (23-2) (25-2) Attach Fitting Elevator Tab (23-2) (25-2) <b>Empennage Structural Elements Vertical Stabilizer</b> Spars/Ribs (23-2) (25-2) Plates/Skins (23-2) (25-2) Attach Fitting (23-2) (25-2) Ventral Structure (23-2) (25-2) <b>Empennage Structural Elements Horizontal Stabilizer</b> Spars/Ribs (23-2) (25-2) Plates/Skins (23-2) (25-2) Tab Structure (23-2) (25-2) Attach Fitting (23-2) (25-2)	23, 25	Control Valves (23-2), (25-2) Shut Off Valves (23-2), (25-2) Rudder Power Control Units (23-1), (25-2) Rudder Power Control Unit (Boeing 737) (25-1)	23, 25	<b>Engines Cowling Systems</b> Inlets(23-1), (25-2) Nacelles (23-1), (25-2) Fairings (23-1), (25-2)	23, 25	<b>Brake System and Assembly Components</b> Brakes(23-1), (25-1) Anti-Skid Valves (23-2), (25-2) Wheel Assemblies (23-1) (25-2) Tire Casing (25-2) Tire Tube (25-2) Anti Skid Section (25-2) Master Cylinder/Brake Valve (25-1)	23, 25
<b>Wing Structure</b> (23-1), (25-1)	23, 25	<b>Wing Structure Structural Elements</b>	23, 25			<b>Airborne Software Controlled Equipment</b>	23, 25, 33	NOTAR (High Speed Fan) (27-1), (29-1)	27, 29



CATEGORY PARTS LIST

Structural Assemblies	CFR part	Structural Elements	CFR part	Hydraulic/Pneumatic Components	CFR part	Propulsion System Components	CFR part	Systems and Equipment	CFR part
		Panels (23-1), (25-2) Wing Webs (23-1), (25-2) Spars (23-1), (25-1) Ribs/Bulkheads (23-2) (25-2) Longeron/Stringers (25-2) Center Wing Box (25-1) Auxiliary Structure (25-2) Wing Attach Fitting (25-1) NAC/Pylon Wing Fitting (23-1), (25-1) Blended Winglet (25-2)				Software Level A (per RTCA/DO 178B), (23-1) (25-1), (33-1) Software Levels B, or C (per RTCA/DO 178B) (23-2) (25-2), (33-2)		<b>Automatic Flight Control Systems/Stability Augmentation Systems</b> Flight Control Computers (27-1), (29-2) Servo/Linear Actuators (27-1), (29-1) <b>Electrical Power Systems</b> AC Generator (27-2), (29-2) AC Inverters (27-2), (29-2) Battery (27-2), (29-2) Starter Generator (27-2), (29-2)	
<b>Main Rotor</b> Hubs (27-1), (29-1) Trunnions (27-1), (29-1) Yokes (27-1), (29-1) Spindles (27-1), (29-1) Grips (27-1), (29-1) Pitch Horns (27-1), (29-1) Drag Braces (27-1), (29-1) Blades (27-1), (29-1) Blade Spars (27-1), (29-1) Damper Hubs (27-1), (29-1) Retention Pins/Straps/Bolts (27-1), (29-1) Tension-Torsion Straps (27-1), (29-1) Strap Packs (27-1), (29-1) Pillow Blocks (27-1), (29-1) Droop Restraint Bolts (27-1), (29-1) Elastomeric Dampers (27-1), (29-1) Bearings (27-1), (29-1) Bushings (27-1), (29-1)	27, 29	<b>Main Rotor Control</b> Swashplates (27-1), (29-1) Swashplate Drives (27-1), (29-1) Anti-Drives (27-1), (29-1) Anti-Links (27-1), (29-1) Pitch Change Links (27-1), (29-1) Drive Links (27-1), (29-1) Drive Levers (27-1), (29-1) Gimbal Stabilizer Bars (27-1), (29-1) Mixing Levers (27-1), (29-1) Collective Sleeves (27-1), (29-1) Cyclic & Collective Control Sticks (27-1), (29-1) Actuator Supports (27-1), (29-1) Control System Tubes/Bolts/Pins (27-1), (29-1)	27, 29			<b>Propellers</b> (Hubs (35-1), Blades (35-1) Blade Retention Devices (35-1) Counter Weights (35-1) Pitch Control Systems Including PCU (35-1) Governors (35-1) Actuators (35-1) PCU Mechanisms (35-1) Propeller Electronic Controls (35-1), and Propeller Valve Modules (35-1)	35	<b>Drive Systems</b> Masts (27-1), (29-1) Gear Boxes (27-1), (29-1) Driveshafts (27-1), (29-1) Bearings (27-1), (29-1) Hanger Bearings (27-1), (29-1) Clutches (27-1), (29-1) Couplings (27-1), (29-1) <b>Transmissions</b> Cases (27-1), (29-1) Gears (27-1), (29-1) Clutches (27-1), (29-1) Oil Pumps (27-1), (29-1) Bearings (27-1), (29-1)	27, 29
Nose Section (23-1), (25-1) Radomes (23-2), (25-2)	23, 25	<b>Fuel Tank Structure</b> Fuel Cell (23-1), (25-1), (27-1), (29-1)	23, 25, 27, 29			Drive Belts (27-1), (29-1)	27, 29	Stall Warning (23-2), (25-2)	23, 25
<b>Nacelles/Pylons (23-1), (25-1) Doors</b> Passenger Crew Doors (25-1) Emergency Exit Door (25-2) Landing Gear Doors (25-2) Cargo Baggage Door (25-2)	23, 25	<b>Nacelles/Pylons Structural Elements</b> Attachment Fittings (25-1), (27-1), (29-1) Bulkhead/Firewalls (Nac/Pylon) (23-2) (25-2),	23, 25, 27, 29			<b>Gas Turbine Engines- Engine Rotors</b> Fan Blades (33-1), Disks (33-1), Blisks (33-1), Impellers (33-1), Spools (Drum Rotors) (33-1),	33	<b>Anti-Ice System</b> Pitot/Static Anti-Ice (23-2) (25-2) Air Foil Anti Ice/Deice (23-2) (25-2), (27-2), (29-2) Window/Windshield & Doors	(23-2) 25, 27, 29

CATEGORY PARTS LIST

Structure Assemblies	CFR part	Structure Elements	CFR parts	Hydraulic/Pneumatic Components	CFR parts	Propulsion System Components	CFR part	Systems and Equipment	CFR part
		Longerons/Stringers (Nac/Pylon) (25-2) Plates/Skins (Nac/Pylon) (25-2) Attach Fittings (Nac/Pylon) (23-2) (25-1), (27-1), (29-1) Engine Struts (23-1), (25-1), (27-1), (29-1) Engine Mounts (23-1), (25-1), (27-1), (29-1) Pylon Lift/Link Assemblies (27-1), (29-1)				Thermal Shields for cooling of main rotors (33-1), Cooling Plates (33-1), Main Rotor Rotating Spacers and Seals (33-1), Main Line Engine Shafts (i.e., low and high pressure rotor shafts, propeller shafts for turboprop applications and power transmission shafts for input to propeller and transmission gearboxes) (33-1), Main Line Engine Bearings (33-2), Rotating Compressor & Turbine Airfoils (33-2), Spinners (33-2) <b>Gas Turbine Engines (Con't)</b> Main Engine Mounts (i.e., redundant designs)(33-1), High Pressure Vessels (i.e. Casting subject to compressor discharge pressure & combustor Pressure) (33-1), Containment Structures (33-1), Primary Structures (i.e. structures that provide support and rigidity of the main engine backbone and for attachment of engine to airframe) (33-1), Main Engine Mounts (i.e., redundant designs) (33-2), Electronic Engine Controls/Full Authority Digital Electronic Controls (33-2), Gas Path (Static & Variable Nozzle Guide Vanes) (33-2), Control System Actuators (33-2), Combustion Liners (33-2), Fuel Nozzles (33-2)	33	(23-2) (25-2) Antenna/Radome Anti Ice (25-2) Intake Anti-Ice/Deice (27-2), (23-2) (29-2)	
Flight Control Mechanisms (23-1), (25-1)	23, 25	Lift/Compression Struts (23-1) Flying Wires (23-1) Floats (23-1), Slus (23-1) Tail Wheels (23-1)	23			<b>Reciprocating Engines</b> Crankshafts (33-1) Connecting Rods Assembly (33-1) Connecting Rod Bearings (33-1) Pistons (33-1) Wrist Pins (33-1) Cylinders (33-1)	33	<b>Airborne Software Systems</b> Software Level A (per RTCA/DO 178B), (23-1) (25-1), (27-1), (29-1) Software Levels B, or C (per RTCA/DO 178B) (23-2) (25-2), (27-2), (29-2) <b>Navigation System</b> Wind Shear Detection	23, 25, 37, 29

**CATEGORY PARTS LIST**

Structural Assemblies	CFR part	Structural Elements	CFR part	Hydraulic/Pneumatic Components	CFR part	Propulsion System Components	CFR part	Systems and Equipment	CFR part
						Cylinder Heads (33-1) Engine Mounts (33-1) Crankcase (33-2) Crankshaft Bearings (33-2) Valve Train (valves, valve springs, pushrods, camshafts, rocker shaft assembly) (33-2) Fuel Delivery Systems (carburetors, injectors, fuel pumps) (33-2), Valve Train/Accessory Drive Gears (33-2) Electronic Engine Control (EEC)/Full Authority Digital Electronic Controls (33-2)		System (25-2) Ground Proximity System (23-2) (25-2) Air Collision Avoidance (TCAS) (23-2) (25-2) Air Speed Indicator (23-2) (27-2), (29-2) Altimeter (23-2) (27-2), (29-2) Air Data Computer (23-2) (27-2), (29-2) Attitude Gyro and Indication (23-2) (27-2), (29-2) Directional Gyro and Indication (23-2) (27-2), (29-2) Pitot/Static System (23-2) (27-2), (29-2) Localizer/VOR System (23-2) (27-2), (29-2) Glide Slope System (23-2) (27-2), (29-2)	
<u>Tail Rotor and Controls</u> Hubs (27-1), (29-1) Yokes (27-1), (29-1) Trunnions (27-1), (29-1) Blades (27-1), (29-1) Blade Spars (27-1), (29-1) Grips (27-1), (29-1) Pitch Change Links (27-1), (29-1) Pitch Change Bearings (27-1), (29-1) Output/Drive Shafts (27-1), (29-1) Gearsets (27-1), (29-1) Strap Packs (27-1), (29-1) Pedal Linkages (27-1), (29-1) Bellcranks (27-1), Flapping & Lead/Lag Bearings (27-1), (29-1)	27, 29	<u>Balloons</u> Baskets (31-1) Envelopes (31-1)	31			<u>Balloon Burner Systems</u> Burner Units (31-1)	31	<u>Balloon Fuel Systems</u> Fuel Manifolds (31-1)	31
Fuselage (27-1), (29-1) Tail Boom (27-1), (29-1) Tail Boom Struts (27-1), (29-1) Tail Boom Mount Fittings (27-1), (29-1) Vertical Stabilizers (27-1),	27, 29	<u>Main Landing Gear</u> Struts (23-1), (25-1), (27-1), (29-1) Crosstubes (23-1), (25-1), (27-1), (29-1) Drag Links (23-1), (25-2), (27-1), (29-1)	23, 25, 27, 29	<u>Main Landing Gear Components</u> Landing Gear Actuator (23-1), (25-2), (27-1), (29-1) Selector Valve (25-2)	23, 25, 27, 29	<u>Gas Turbine Engines-Static Structures</u> Engine Mounts (1 e non-redundant designs) (33-1) High Pressure Vessels (Casings Subject to	33	<u>Window-Windshield System</u> Flight Compartment Windows (23-1), (23-2) (25-1) Passenger Compartment	23, 25, 27, 29

**CATEGORY PARTS LIST**

Structural Assemblies	CFR part	Structural Elements	CFR part	Hydraulic/Pneumatic Components	CFR part	Propulsion System Components	CFR part	Systems and Equipment	CFR part
(29-1) Horizontal Stabilizers (27-1) (29-1) Elevator (27-1), (29-1) Elevator Horn (27-1), (29-1) Skin Assemblies (27-1), (29-1) Bonded Panel Assemblies (27-1), (29-1) Spars (27-1) (29-1)		Fuse Pins (25-2) Attach Section (25-1) Extension and Retract System (25-2) Landing Gear Door Retract Section (25-2) Landing Gear Position and Warning (27-2) (29-2) <u>Nose Landing Gear</u> (23-1), (25-1) Strut/Axle (25-1) Attach Section (25-1) Steering Links (23-1) (25-2) (27-1) (29-1)		Landing Gear Door Actuator (25-2) <u>Nose Landing Gear Components</u> Shimmy Damper (25-2) Steering Unit (25-2)		Compressor Discharge Pressure & Combuster Pressure) (33-1) Containment Structures (33-1) Primary Structures (that provide support and rigidity of the main engine backbone and for attachment of engine to airframe (33-1)		Windows (25-2) Door Windows (23-2) (25-2) <u>VHF Communication System</u> (27-2), (29-2)	